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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/331,723	08/18/1999	JOHN E. BOYNTON	2185-156PCT	2008

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EXAMINER

MEHTA, ASHWIN D

ART UNIT PAPER NUMBER

1638

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/331,723

Applicant(s)

BOYNTON ET AL.

Examiner

Ashwin Mehta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2004 and 21 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6,7,10-16,18,20-24 and 43-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6,7,10-16,18,20-24 and 43-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12212004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 19, 2004 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The rejection of claims 1, 2, 4, 6, 7, 10-16, 18, 20-24, and 43-47 under 35 U.S.C. 112, 2nd paragraph is withdrawn, in light of the claim amendments.

Specification

4. The amendment filed December 21, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The sentence that reads, "For higher stringencies, the filters may be washed for 60 minutes in 300-500 ml of a solution of 0.2X SSC

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and 0.1% SDS at 68°C.” which appears in the amendment to the paragraph starting on page 46, line 16, of the specification. Applicants have indicated that the subject matter was incorporated by reference into the specification by way of a reference made to Sambrook et al. on page 46, lines 8-15 of the specification (response filed December 21, 2004, page 4, 1st full paragraph). However, the original disclosure does not indicate that any of the citations recited in the specification are incorporated by reference. Mere reference to another application, patent, or publication is not an incorporation of anything therein into the application containing such reference for the purpose of the disclosure required by 35 U.S.C. 112, first paragraph. See MPEP 608.01(p). Insertion of the sentence recited above into the specification constitutes new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

5. Claims 10-14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

6. Claims 48 and 49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

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art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn towards methods of conferring resistance to protoporphyrinogen oxidase-inhibiting herbicides upon plants or plant cells, comprising introducing into plants or plant cells or algal cells a DNA fragment that is 2.6 to 13.8 kb in length and that can be detected and isolated by hybridization to a nucleotide sequences complementary to SEQ ID NO: 1 or SEQ ID NO: 4 under recited conditions.

The specification as originally filed does not describe hybridization wash conditions of 0.2X SSC, 0.1% (w/v) SDS at 68°C. There is no mention in the original specification of such wash conditions. This is a NEW MATTER rejection.

7. Claims 1, 2, 4, 6, 7, 10-16, 18, 20-24, 43-47 remain and new claims 48-49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record stated in the Office action mailed October 17, 2003. Applicants traverse the rejection in the paper submitted November 19, 2004. Applicants' arguments were fully considered but were not found persuasive.

Applicants argue that it is unnecessary for the DNA fragment to encode an entire protein, that the Xho/PmaC2.6 fragment contained only a portion of the mutated PPO gene and conferred PPO resistance to a PPO-sensitive *Chlamydomonas* host when introduced therein (response,

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page 18, 1st full paragraph). However, it remains that the claims do not recite complete hybridization wash conditions. Applicants point to Sambrook et al., and argue that the conditions recited in claims 1 and 15 are a more stringent salt concentrate condition than that recited in the reference (response, paragraph bridging pages 18-19). However, the claims still do not mention the temperature of the wash. Regarding the citation of Fourgoux-Nicol et al., Applicants argue that the reference does not teach that wash temperatures that do not correspond to high stringency conditions allow the hybridization of unrelated sequences (response, page 19, 1st full paragraph). However, the reference shows that when highly stringent hybridization conditions are used in the art, they are still followed by highly stringent wash conditions. Regarding claims 48 and 49, the recited hybridization wash conditions are new matter, as discussed above.

8. Claims 1, 2, 4, 6, 7, 10-16, 18, 20-24, and 43-47 remain and new claims 48-49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for the reasons of record stated in the Office action mailed October 17, 2003. Applicants traverse the rejection in the paper submitted November 19, 2004. Applicants' arguments were fully considered but were not found persuasive.

Applicants argue that "fragments" recited in the claims are capable of conferring PPO resistance when introduced into herbicide-sensitive cells, and that the hybridization conditions

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are sufficient (response, paragraph bridging pages 19-20). However, as discussed previously, homologous recombination is required for the DNA fragment to confer PPO resistance to the host cells, and the specification does not enable one skilled in the art carry out such a method. Applicants argue that one of ordinary skill can screen plant cells for PPO-resistance, while admitting that the frequency of homologous recombination in plant cells is low (response, page 20, 1st and 2nd full paragraphs). However, methods for gene targeting by homologous recombination were not known in the art at the time of filing for plant species other than *Chlamydomonas*. Puchta discusses how the frequency in plants is low enough that gene targeting is not feasible, which indicates that such techniques were not known in the prior art, as discussed in the previous Office actions. Terada et al. also discuss flaws of previous reports on homologous recombination, also as discussed in previous Office actions. Obviously, screening also would have occurred in the flawed attempts of the prior art. The instant specification does not provide guidance to overcome the shortcomings of the prior art.

9. Claims 1, 2, 4, 6, 7, 10-16, 18, 20-24, and 43-49 are rejected.

Contact Information

Any inquiry concerning this or earlier communications from the Examiner should be directed to Ashwin Mehta, whose telephone number is 571-272-0803. The Examiner can normally be reached from 8:00 A.M to 5:30 P.M. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amy Nelson, can be reached at 571-272-0804. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of

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the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

March 3, 2005

A handwritten signature in black ink, appearing to read 'Ashwin D. Mehta'.

Ashwin D. Mehta, Ph.D.
Primary Examiner
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